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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,573	01/18/2001	David Michael Bains	13DV13120	4682

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JOHN S. BEULICK  
C/O ARMSTRONG TEASDALE LLP  
ONE METROPOLITAN SQUARE  
SUITE 2600  
ST. LOUIS, MO 63102-2740

EXAMINER

KIM, CHONG HWA

ART UNIT PAPER NUMBER

3682

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/761,573

Applicant(s)

BAINS ET AL.

Examiner

Chong H. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24, 26-28, 30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 is/are allowed.
- 6) ☒ Claim(s) 1-11, 21-24, 26-28, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The Examiner acknowledges the applicant's Amendment filed Jul 6, 2004 in response to the Office action made on Mar 5, 2004 and canceling of claim 25.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damm et al., U.S. Patent 6,457,564 B1 in view of Sakai et al., JP 410170504A.

Damm et al. shows, in Fig. 1, a method for performing a clean check on a gearbox 3, the method comprising the steps of;

flushing an oil-based fluid through the gearbox and then through a filter 24;

determining the quality of the lubricant in the system (since it is inherent that filter is changed periodically);

flushing the oil-based fluid through a preliminary filter 8 prior to flushing the oil-based fluid through the gearbox;

wherein the gearbox is a finally assembled, closed gearbox;

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but fails to show the determining steps that involve comparing the weight of the filter before and after; the filters being 3 micron collection filter; the oil being MIL-L-23699 oil; and flushing 50 gallons of oil at about 40 pounds per square inch.

Sakai et al. shows, in the Abstract, a system and a method of performing a clean check, the method comprising the steps of;

flushing an oil-based fluid through the refrigerator and then through a filter 12;

weighing the filter to determine the weight of contaminants collected in the filter;

comparing the contaminant weight to a predetermined level, wherein the gearbox is acceptable if the contaminant weight is below the predetermined level; and

wherein the steps are repeated if the contaminant weight is above the predetermined level (inherent).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the oil quality determining method as disclosed by Damm et al. with the contaminants weight determining method as taught by Sakai et al. in order to provide a more accurate and convenient way of measuring, as described in the Abstract of Sakai et al., so that the system is provided with longer life expectancy.

As to the matter of the filters being 3 micron collection filter and the oil being MIL-L-23699 oil, it would have been obvious to provide the filter and the oil type of Damm et al. with a 3 micron collection filter and MIL-L-23699 oil, since such a modification would have involved a mere change in the material used in the system for performing a clean check on the gearbox. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. In re Leshin, 125 USPQ 416.

As to the matter of flushing 50 gallons of oil at about 40 pounds per square inch, it would have been obvious to apply the steps involving flushing 50 gallons of oil at about 40 pounds per square inch in Damm et al. since it has generally been recognized that the specific flushing step involves optimization through routine experimentation, In re Boesch, 205 USPQ 215 (CCPA 1980); In re Svala, 70 USPQ 412 (CCPA 1946); or discovery of optimum ranges within prior art general conditions, In re Aller et al., 105 USPQ 233.

3. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damm et al. in view of Sakai et al. as applied to claim 1 above, and further in view of Kodaira et al., JP Patent 09089638 A.

Damm et al. in view of Sakai et al. shows, as discussed above in the rejection of claim 1, the method for performing a clean check on a gearbox including the steps of weighing the filter and comparing the contaminant weight, but fails to show the step of soaking the filter in a solvent prior to the step of weighing the filter; soaking for 30 minutes or more; the steps of soaking the filter in a first solvent prior to the step of weighing the filter and then soaking the filter in a second solvent; and the first solvent being mineral spirits and the second solvent being isopropyl alcohol;.

Kodaira et al. teaches, in the Abstract, a method of measuring residual quantity of machining oil comprising a step of soaking a device in a solvent prior to a measurement of a filter in which contaminants in oil are obtained.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of performing a clean check on a gearbox of Damm et

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al. in view of Sakai et al. by adding the step of soaking a device in a solvent prior the step of measuring as taught by Kodaira et al. in order to provide a more accurate means of targeted measurement so that the cost involved in maintenance can be reduced.

As to the matter of the step of soaking for 30 minutes or more, it would have been obvious to apply the steps involving soaking the filter in the solvent for 30 minutes or more in Kodaira et al. in view of Sakai et al., since it has generally been recognized that the duration in which the filter can be soaked involves optimization through routine experimentation, In re Boesch, 205 USPQ 215 (CCPA 1980); In re Svala, 70 USPQ 412 (CCPA 1946); or discovery of optimum ranges within prior art general conditions, In re Aller et al., 105 USPQ 233.

As to the matter of the steps of soaking the filter in a second solvent after first solvent, it would have been obvious to provide a second solvent to further extract contaminants in the filter of Damm, since such a modification would have involved a mere addition of a solvent that functions essentially the same as the first solvent used in the system for performing a clean check on the gearbox. A duplication of parts is generally recognized as being within the level of ordinary skill in the art. In re Harza, 124 USPQ 378.

As to the matter of the solvent being mineral spirits or isopropyl alcohol, it would have been obvious to make the solvent of Kodaira et al. mineral spirits or isopropyl alcohol, since such a modification would have involved a mere selection of the material used in the system for performing a clean check on the gearbox. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. In re Leshin, 125 USPQ 416. Furthermore, it would have been obvious to modify the solvent of Kodaira et al. with mineral spirits or isopropyl alcohol, since applicant has not disclosed that the

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solvent being specifically mineral spirits or isopropyl alcohol solves any stated problem or is for any particular purpose other than just dissolving the oil and the contaminants, and it appears that the soaking of the filter in a solvent to dissolve the oil and the contaminants therein would perform equally well with any other known solvents that dissolve the oil and the contaminants.

4. Claims 21-24, 26-28, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damm et al., U.S. Patent 6,457,564 B1 in view of Logue, U.S. Patent 3,566,892.

Damm et al. shows, in Fig. 1, a system for performing a clean check on a gearbox having an inlet and an outlet, the system comprising;

a source L of an oil based fluid fluidly connected to the gearbox inlet (see the arrow leading to the gearbox 3);

a first filter 24 fluidly connected to the gearbox outlet;

a preliminary filter 8 fluidly connected between the source of an oil-based fluid and the gearbox inlet;

means 6, 18 for causing the oil based fluid to flow through the gearbox, the preliminary filter, and the first filter; and

wherein the means for causing the oil-based fluid to flow through the gearbox and the first filter is a pump 18;

but fails to show means for soaking the first filter in a solvent; the filters being 3 micron collection filter and the oil being MIL-L-23699 oil; the solvent being mineral spirits or isopropyl alcohol; a second filter for passing the solvent through.

As to the soaking means and the second filter, Logue teaches in the Abstract, a means (the oil filter cleaner) for soaking a filter 2 in a solvent (gasoline, benzene, kerosene, or detergent) and a filter 31 for passing the solvent through.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the filter soaking means as taught by Logue in the system as disclosed by Damm et al. in order to provide a device that reuses filters so that the cost of maintenance can be reduced.

As to the type of filter and oil, it would have been obvious to provide the filter and the oil type of Damm et al. with a 3 micron collection filter and MIL-L-23699 oil, since such a modification would have involved a mere change in the material used in the system for performing a clean check on the gearbox. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. In re Leshin, 125 USPQ 416.

As to the solvent being mineral spirits or isopropyl alcohol, it would have been obvious to make the solvent of Rogue mineral spirits or isopropyl alcohol, since such a modification would have involved a mere selection of the material used in the system for performing a clean check on the gearbox. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. In re Leshin, 125 USPQ 416. Furthermore, it would have been obvious to modify the solvent of Rogue with mineral spirits or isopropyl alcohol, since applicant has not disclosed that the solvent being specifically mineral spirits or isopropyl alcohol solves any stated problem or is for any particular purpose other than just dissolving the oil and the contaminants, and it appears that the filter



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soaked in a solvent to dissolve the oil and the contaminants therein would perform equally well with any other known solvents, such benzene, gasoline, or kerosene, that dissolve the oil and the contaminants.

***Allowable Subject Matter***

5. Claims 12-20 are allowed.

***Response to Arguments***

6. Applicant's arguments with respect to claims 21 and 22 have been considered but are moot in view of the new ground(s) of rejection.

7. In response to applicant's argument that Sakai et al. fails to show the determining step, it is the Examiner's view that Sakai et al. at least inherently shows such step. Sakai et al. discloses a measuring apparatus for contaminant in oil by quantitatively evaluating the contaminant in the oil on the basis of a change in the weight of the filter before and after. It must be agreed and understood that in the art of measurement, the inherent purpose of measurement is to "compare". If there is no "predetermined value" to compare the measurement with, then the purpose for the measuring apparatus would be meaningless and worthless. It is inherent that the contaminant information is used for improving the mechanical system and/or the maintenance method or for simply to maintain. Either improvements or simple maintenance requires some sort of "predetermined value" (preferably determined by the designer) to compare the new and old values so that one of ordinary skill in the art may know what is the acceptable contaminant level. Therefore, the limitation that compares the contaminant weight to a predetermined level to

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determine the contaminant level acceptability, as recited in claim 1, is inherently shown by Sakai et al.

8. In response to applicant's argument that the Office action mischaracterized the claimed invention, it is the Examiner's view that including a description/characterization of the prior art in the rejection although such limitation is not recited in the claim does not mischaracterize the claimed invention. There is no rules or laws that preclude from including a description of the prior art in the rejections when there is no such recitation in the claims. Furthermore, such description/characterization does not in any way suggest that that is equivalent to the limitation as recited in the claim.

9. In response to applicant's argument that Kodaira et al. fails to show the determining step, it is noted that such determining step argument is responded above in the paragraph 6, and therefore will not be discussed under this section.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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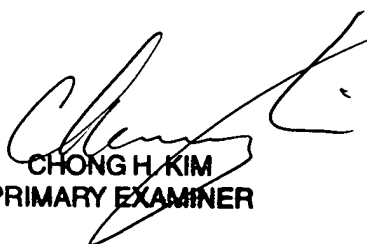
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Tuesday - Friday; 8:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

chk  
September 3, 2004

  
CHONG H. KIM  
PRIMARY EXAMINER